



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/507,096	02/17/2000	Bruce L. Davis	60100	7654

23735 7590 07/25/2003

DIGIMARC CORPORATION
19801 SW 72ND AVENUE
SUITE 100
TUALATIN, OR 97062

EXAMINER

MILLER, RYAN J

ART UNIT	PAPER NUMBER
----------	--------------

2621

DATE MAILED: 07/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/507,096

Applicant(s)

DAVIS ET AL.

Examiner

Ryan J. Miller

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 40-71 is/are pending in the application.
- 4a) Of the above claim(s) 52-62 and 69-71 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 40-51 and 63-68 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 May 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The response received on May 14, 2003 has been placed in the file and was considered by the examiner. An action on the merits follows.

Drawings

2. The substitute drawings were received on May 14, 2003. These drawings are approved by the examiner.

Claim Rejections - 35 USC § 112

3. Claim 42 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 42 calls for the authentication data to comprise "a hash derived from the media signal". The specification never describes the use of a "hash". Appropriate clarification is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 43-66 are rejected under 35 U.S.C. 102(e) as being anticipated by

Narayanaswami et al. (U.S. Patent Application Publication No. US2003/0011684 A1).

As applied to claim 43, Narayanaswami et al. discloses a media signal capture device (see Fig. 1: Reference numeral 100 referring to a camera) including: a recorder for capturing a media signal (see Fig. 1: Reference numeral 128 referring to the camera electronics); and a steganographic encoder for encoding auxiliary data in the media signal (see Fig. 1: Reference numeral 134 referring to a watermark processor); and an interface for receiving the auxiliary data from an external computing device (see Fig. 1 and paragraph [0035]: The reference describes a GPS receiver 114 (i.e. an interface) for receiving geographic position and time information (i.e. auxiliary information) from a GPS satellite (i.e. an external computing device).); wherein at least part of the auxiliary data is specified in the external computing device and transferred into the media signal capture device for encoding in the media signal (see paragraph [0035]: The GPS receiver receives information on the geographic position and the time that the picture was taken (i.e. auxiliary information) from the satellite (i.e. external computing device) and is encoded by the watermark processor 134.).

As applied to claim 44, Narayanaswami et al. discloses a media signal capture device (see Fig. 1: Reference numeral 100 referring to a camera) including: a recorder for capturing a media signal (see Fig. 1: Reference numeral 128 referring to the camera electronics); and a steganographic encoder for encoding auxiliary data in the media signal (see Fig. 1: Reference numeral 134 referring to a watermark processor); and an interface for receiving an operator parameter specifying a type of auxiliary data to associate with the media signal from an external computing device, the operating parameter being specified by a remote user via the external computing device and transferred into the media signal capture device (see Fig. 1 and paragraph [0037]: The reference describes a Personal Area Network (PAN) receiver 122 (i.e. an interface)

for obtaining recordable parameters via the PAN which links special electronic devices (i.e. an external computing device) having a transceiver and CPU carried on the individuals using human conductivity. The parameters may include the identity of the photographer and since the information is sent over a network, it can be sent by a remote user. The reference also describes that the camera has a modem 146. This modem could be used to receive parameters from a remote user.).

As applied to claim 45, which is representative of claim 48, Narayanaswami et al. discloses a media signal capture device (see Fig. 1: Reference numeral 100 referring to a camera) including: a recorder for capturing a media signal (see Fig. 1: Reference numeral 128 referring to the camera electronics); and a steganographic encoder for encoding auxiliary data in the media signal (see Fig. 1: Reference numeral 134 referring to a watermark processor); and an interface for receiving session parameters that govern the operation of the media signal capture device during a session from an external computing device and transferred into the media signal capture device to control the media signal capture device during a session (see Fig. 1 and paragraph [0037]: The reference describes a Personal Area Network (PAN) receiver 122 (i.e. an interface) for obtaining recordable parameters (i.e. session parameters) via the PAN which links special electronic devices (i.e. an external computing device) having a transceiver and CPU carried on the individuals using human conductivity. This device allows the camera to receive parameters such as the identity of the photographer. Without this information, the camera cannot be used. Therefore, in a sense, this parameter helps to control the camera during a session.).

As applied to claim 46, which is representative of claim 50, Narayanaswami et al. discloses that at least one of the session parameters instructs the media signal capture device to

Art Unit: 2621

preclude a user from altering a device setting during the session (see paragraph [0037]: The reference describes that one of the parameters gives the identity of the photographer. This parameter is supplied by a PAN receiver as described above. This parameter cannot be changed during a session as long as the user is in contact with the camera. Therefore, this parameter instructs the media signal capture device to preclude a user from altering a device setting during the session.).

As applied to claim 47, which is representative of claim 49, Narayanaswami et al. discloses that the session parameters specify auxiliary data to be associated with a media signal captured in the device during a session (see paragraph [0043]: As can be seen from the table these parameters associate data with the image such as the identity of the photographer, etc.).

As applied to claim 51, Narayanaswami et al. discloses that a session identifier is steganographically encoded in the media signal or metadata associated with the media signal in the session (see paragraphs [0043] and [0045]: The reference describes that the parameters watermarked into the image can include the date and time which are session identifiers. The reference further describes that the watermarked image appears perceptually to be nearly identical to the source image. Therefore, the session identifier is steganographically embedded in the image.).

As applied to claim 63, Narayanaswami et al. discloses a system including a media signal recorder (see Fig. 1: Reference numeral 128), a computer (see Fig. 1: Reference numeral 102), and an interface for communicating between the recorder and the computer (see Fig. 1: There is clearly an interface for components 128 and 102 to communicate.), an improvement comprising automatically steganographically encoding media signal data with digital watermark data upon

Art Unit: 2621

transfer to the computer (see Fig. 1: Reference numeral 134 is used to apply an invisible digital watermark to the image.); wherein the computer is external to the media signal recorder (see paragraph [0041]: The reference describes that a serial port interface and a parallel port interface for coupling the camera to a computer for downloading information from the camera to the computer (i.e. the computer is external to the media signal recorder).).

As applied to claim 64, Narayanaswami et al. discloses associating metadata in the recorder with a media signal captured in the recorder, transferring said metadata to the computer with the media signal, and associating said metadata in the computer with the digital watermark (see paragraph [0033] and paragraph [0041]: The reference describes an image/parameter processor 106 for recording a plurality of parameters (i.e. metadata) onto an image (i.e. media signal). The reference also describes linking the camera to a computer for downloading information from the camera's memory 108 to the computer. This information could include the parameters.).

As applied to claim 65, Narayanaswami et al. discloses that the digital watermark data permits detection of subsequent media signal alteration (see paragraph [0051]: The reference describes that the recorded parameters can be compared with the watermarked parameters to determine if the image has been altered in any way.).

As applied to claim 66, Narayanaswami et al. discloses that the encoding is performed by the computer (see paragraph [0033]: The reference describes an image/parameter processor 106 for recording a plurality of parameters onto an image which is then encoded by watermark processor 134. These components are all parts of the overall system computer.).

As applied to claim 67, Narayanaswami et al. discloses method of operating a media signal capture system, the system including a media signal capture device (see Fig. 1: Reference numeral 128 referring to the camera electronics.) and a distinct computer with a user interface (see Fig. 1: Reference numerals 102 and 126, referring to a CPU and a user interface/display, respectively.), the method including providing to the media signal capture device from said computer at least one data item to be steganographically encoded in a media signal captured by the media signal capture device (see paragraph [0033]: The reference describes an image/parameter processor 106, which is part of CPU 102, for recording a plurality of parameters onto an image, obtained from the camera electronics), wherein the user interface of the computer is utilized to specify the data item (see paragraph [0039]: The reference describes an interface/display 126 that keeps track of which parameters should or should not be recorded (i.e. specify the data item).) and the computer is external to the media signal recorder (see paragraph [0041]: The reference describes that a serial port interface and a parallel port interface for coupling the camera to a computer for downloading information from the camera to the computer (i.e. the computer is external to the media signal capture device).).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 40, 41, and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Narayanaswami et al. (U.S. Patent Application Publication No. US2003/0011684 A1) and Rhoads (WO 97/43736).

As applied to claim 40, Narayanaswami et al. discloses a media signal capture device (see Fig. 1: Reference numeral 100 referring to a camera) including: a recorder for capturing a media signal (see Fig. 1: Reference numeral 128 referring to the camera electronics); and a steganographic encoder for encoding auxiliary data in the media signal (see Fig. 1: Reference numeral 134 referring to a watermark processor).

As applied to claim 41, Narayanaswami et al. discloses that the auxiliary data includes authentication data for authenticating the media signal (see paragraph [0051]: The reference describes that data from the stamped image (i.e. the watermarked image) can be used to authenticate the image by using the parameters that are embedded in the image data.).

Claim 40 further calls for the auxiliary data to include a reference to auxiliary data stored in an external database. Narayanaswami et al. does not teach this feature; however, Rhoads, in the same field of endeavor of image watermarking, discloses such a feature (see page 80, lines 16-23: The reference describes that by selecting a read watermark option, a user can discover the contents of the watermark (i.e. auxiliary data) from an external source such as the World Wide Web (i.e. an external data base).).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Narayanaswami et al. by adding the use of an external data base as taught in Rhoads because such a system allows for a watermark containing a small amount of data to be embedded into an image and then linked to a large amount of data. Therefore, the

Art Unit: 2621

watermark can be easily embedded into the image due to its relatively small size, and contain a large amount of information, since it is linked to a database of information.

Claim 66 calls for a steganographic link which provides a reference to a database entry in which auxiliary data related to the media signal is stored and the steganographic link is embedded into the media signal to provide a persistent link in the media signal to the database entry. This element is absent from Narayanaswami et al., but is clearly disclosed in Rhoads as described above in the rejection of claim 40.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Narayanaswami et al. by adding the use of an external data base as taught in Rhoads because such a system allows for a watermark containing a small amount of data to be embedded into an image and then linked to a large amount of data. Therefore, the watermark can be easily embedded into the image due to its relatively small size, and contain a large amount of information, since it is linked to a database of information.

8. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Narayanaswami et al. (U.S. Patent Application Publication No. US2003/0011684 A1) and Friedman (U.S. Patent No. 5,449,294).

As applied to claim 42, Narayanaswami et al. discloses a media signal capture device (see Fig. 1: Reference numeral 100 referring to a camera) including: a recorder for capturing a media signal (see Fig. 1: Reference numeral 128 referring to the camera electronics); and a steganographic encoder for encoding auxiliary data in the media signal (see Fig. 1: Reference numeral 134 referring to a watermark processor); wherein the auxiliary data includes authentication data for authenticating the media signal (see paragraph [0051]: The reference

Art Unit: 2621

describes that data from the stamped image (i.e. the watermarked image) can be used to authenticate the image by using the parameters that are embedded in the image data.).

Claim 42 further calls for the authentication data to comprise a hash derived from the media signal. This element is absent from Narayanaswami et al., but is disclosed by Friedman (see column 3, lines 26-45: The reference describes the use of a “hash” for encrypting information.).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Narayanaswami et al. by adding the use of a hash as taught by Friedman because a hash allows for a “unique encrypted digital signature [to be] encrypted” (see column 3, lines 43-44).

Response to Arguments

9. Applicant's arguments filed on May 14, 2003 have been fully considered.

Drawing Objection

Summary of Argument: The drawing objection should be withdrawn in light of the substitute drawings filed with the amendment.

Examiner's Response: Examiner agrees. The objection has been withdrawn in light of the substitute drawings.

Prior Art Rejections

35 U.S.C. 102(e) rejections

Summary of Argument: Applicant argues that the amendments to the claims overcome the 35 U.S.C. 102(e) rejections under Narayanaswami et al. (U.S. Patent Application Publication No. US2003/0011684 A1).

Art Unit: 2621

Examiner's response: The applicant's arguments with respect to claims 40-51 and 63-68 are moot in view of the new ground(s) of rejection necessitated by the amendment to the claims. These rejections are presented above.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan J. Miller whose telephone number is (703) 306-4142. The examiner can normally be reached on M-F 8:00-4:30.

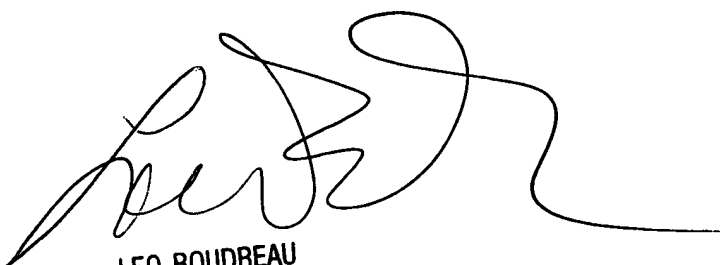
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau can be reached on (703) 305-4706. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Art Unit: 2621

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

Ryan J. Miller
Examiner
Art Unit 2621


Ryan J. Miller
July 14, 2003


LEO BOUDREAU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600